Abstract

A communication network (100) and method are provided that reduce loses between a base transceiver station (BTS 102) and an antenna (114). Generally, the network (100) includes a tower (112) having a tower-top (110) on which the antenna (114) is supported, a BTS (102) and a separate amplifier (124) on the tower-top near to the antenna, the amplifier in a communication path between the BTS and the antenna. In one embodiment, the network (100) further includes a backhaul (122) on the tower-top (110) near the antenna (114), the backhaul configured to couple signals between the BTS (102) and a base station controller (BSC 108). Preferably, the backhaul (122) is integrated with the BTS (102). In another version, the backhaul (122) is configured to couple communication signals between the BTS (102) and the BSC (108) via a wireless communication system (128). More preferably, a photovoltaic cell (132) on the tower (112) supplies electrical power to the BTS (102), the amplifier (124) and the backhaul (122), thereby providing a self-contained tower-top node (134).